



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,324	03/24/2004	Klaus-Dieter Mueller	Q80058	4021

23373 7590 12/16/2004
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

CHARIOUI, MOHAMED

ART UNIT PAPER NUMBER

2857

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/682,724

Applicant(s)

KLEE, MATTHEW S.

Examiner

Mohamed Charioui

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. **Figures 1 and 2** are objected to because boxes are not labeled, The Examiner directs the applicant to 37 C.F.R. 1.84(n) and 1.84(o) which state, "Graphical drawing symbols may be used for conventional elements when appropriate" while "[o]ther symbols which are not universally recognized may be used, subject to approval by the Office" and that "[s]uitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing". Since the drawing in Figures 1 and 2 do not contain conventional elements, the Examiner may require descriptive legends for better understanding of the drawings. See MPEP 608.02.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Cotter et al. (U.S. 5,572,025).

As per claim 1, 3, 8-10, Cotter et al. teach tuning at least one mass spectrometer parameter across a mass range (see col. 4, line 65 to col. 5, line 10); fitting the at least one mass spectrometer parameter to a mathematical function across the mass range (see col. 5, lines 10-25 and col. 14, lines 25-35); and ramping the at

least one mass spectrometer parameter dynamically according to the mathematical function during a mass spectrometer scan (see col. 10, line 62 to col. 11, line 8).

As per claim 2, Cotter et al. further teach that the mass spectrometer is a quadrupole mass spectrometer (see col. 6, lines 60-65).

As per claim 4, Cotter et al. further teach that the mathematical function is linear (see col. 12, lines 19-30).

As per claim 5, Cotter et al. further teach that the mathematical function is non-linear (see col. 14, lines 16-28).

As per claims 6 and 7, Cotter et al. further teach that the mass spectrometer parameter is tuned to optimize a mass spectrometer performance attribute (see col. 9, lines 19-40).

As per claims 11-13, Cotter et al. further teach means for measuring a mass-to-charge ratio of an ion (see col. 10, lines 9-21); means for optimizing a mass spectrometer performance metric for multiple masses in a mass range (see col. 14, line 66, to col. 15, line 21 and col. 4, lines 43-54); and means for dynamically ramping control parameters as a function of mass-to-charge ratio (see col. 10, line 62 to col. 11, line 8).

As per claims 14-20, Cotter et al. further teach an ion generator (see col. 4, line 65 to col. 5, line 10); a mass filter; a mass detector (see col. 1, lines 25-33 and col. 1, lines 49-54); and a tuning control device, said tuning control device dynamically ramping at least one control parameter during scan, thereby optimizing a performance metric (see col. 4, line 65 to col. 5, line 10 and col. 10, line 62 to col. 11, line 8).

As per claim 15, Cotter et al. further teach that the mass spectrometer is a quadrupole mass spectrometer (see col. 6, lines 60-65).

Prior art

3. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

Schwartz et al. ['022] disclose method and apparatus of increasing dynamic range and sensitivity of mass spectrometer.

Dorshenko ['671] discloses time-of-flight/ion trap mass spectrometer, a method, and a computer program product to use the same.

Schwartz et al. ['759] disclose two-dimensional quadrupole ion trap operated as mass spectrometer.

Chang et al. ['673] disclose Ion trap mass spectrometer.

Contact information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohamed Charioui whose telephone number is (571) 272-2213. The examiner can normally be reached Monday through Friday, from 9 am to 6 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2857

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mohamed Charioui

12/1/04


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800